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FAX INFORMATION SHEET

Date: June 27, 2002
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Recipient's Name	Company	General Number	Fax Number
Ms. Carlyn Winter Prisk (3HS11)	U.S. Environmental Protection Agency	215-814-2625	215-814-3005

Sender: David Richman
Sender's Direct Line: 215-981-4412
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Total Pages Including Cover: 9

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June 27, 2002

VIA FACSIMILE

Ms. Carlyn Winter Prisk (3HS11)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Lower Darby Creek Area Superfund Site Response of The Academy of Natural Sciences to Section 104(e) Information Request

Dear Ms. Prisk:

The Response of The Academy of Natural Sciences to EPA's May 10, 2002 information request is enclosed. If further information is needed, kindly contact me.

Your courtesy in granting an extension of time for this submission is most appreciated.

Yours very truly,

David Richman

Enclosure

cc: Mr. David Rusenko

ORIGINAL (Red)

RESPONSE OF THE ACADEMY OF NATURAL SCIENCES TO SECTION 104(e) INFORMATION REQUEST PERTAINING TO LOWER DARBY CREEK AREA SUPERFUND SITE

1. Academy of Natural Sciences of Philadelphia
1900 Benjamin Franklin Parkway
Philadelphia, PA 19103-1195

Telephone: (215) 299-1191

a. Incorporated 1812, in the Commonwealth of Pennsylvania.
b. Same as a.
c. There is no parent company.

2. The Academy of Natural Sciences operates a natural history museum, maintains collections of natural history specimens, and conducts research in the natural sciences. Its mission is to expand knowledge of nature through discovery and to inspire stewardship of the environment. The Academy's activities have not changed significantly between 1958 and the present.

3. The following current employees began their Academy employment before 1976. All were and are involved principally in scientific research. Although each has some knowledge of operations, none had any involvement in the disposal or arranging for disposal of waste materials.

Frank Acker
Clyde Goulden
Bob Grant
Paul Kiry
Ruth Patrick
Charles Reimer
Alfred Schuyler

One former employee falls into the same category:

Larry Lyons
[redacted]

4. The Academy of Natural Sciences of Philadelphia is a nonprofit corporation, directed by a Board of Trustees.

a. Dates: 1812 to present
b. Nature of operations: see #2, above.

c. There are no documents extant. The recollection of staff members is that chemicals used in small quantities in research were diluted and poured down the drain after use or evaporated under a fume hood.

5. There are no documents extant concerning the Academy's generation, transportation, or disposal of pollutants, etc., between 1958 and 1976.

6. The following chemicals were probably handled by the Academy's chemistry department in the period 1958 to 1976. The "Estimated Quantities" refer to quantities maintained in inventory, not to usage.

CHEMICAL	Estimated Quantities	CAS#
2-PROPANOL	4 L	67-63-0
8-QUINOLINOL	40 G	
8-QUINOLINOL-8- HYDROXYQUINOLINE	1/3 OZ	148-24-3
ACETIC ACID	4L	64-19-7
ACETONE	500 ML	67-64-1
ACETONE, REAGENT	1L, 3 L	
ALKALINE IODIDE SODIUM AZIDE	30 ML	
ALUMINA	175 G	1344-28-1
ALUMINUM AMMONIUM SULFATE	400 G	7784-26-1
AMMONIUM CHLORIDE, GRANULAR	400 G	12125-02-9
AMMONIUM HYDROXIDE	500 ML	1336-21-6
AMMONIUM MOLYBDATE, 4-HYDRATE	250 G	12027-67-7
AMMONIUM PERSULFATE	200 G	7727-54-0
AMMONIUM PHOSPHATE, DIBASIC	30 G	7738-28-0
AMMONIUM PHOSPHATE, MONOBASIC	50 G	7722-76-1
AMMONIUM POTASSIUM SULFATE	100 G	10043-67-1
ANTIMONY POTASSIUM TARTRATE	350 G	28300-74-5
BARIUM CHLORIDE, DIHYDRATE, CRYSTAL	250 G	10361-37-2
BENZENE	0.5 PT	
BLUE BUFFER SOLUTION, pH10	100 ML	7732-18-5
BORIC ACID	350 G	10043-35-3
BROMOPHENOL BLUE	5 G	115-39-9
CALCIUM CHLORIDE	450 G	10035-04-8
CALCIUM CHLORIDE, ANHYDROUS	1 LB	10043-52-4
CALCIUM CHLORIDE, DIHYDRATE	1 KG	10035-04-8
CALCIUM HYDROXIDE, 40%	30 CC	
CALCIUM INDICATOR	300 G	
CALCIUM NITRATE	4 LBS	13477-34-4
CALCIUM REFERENCE STANDARD	75 ML	471-34-1
CALCIUM SULFATE	250 G	
CANADA BALSAM	120 G	
CHLOROFORM	3 L	67-66-3
CHLOR-ZINC-IODIDE	5 CC	
CUPRIC SULFATE	2 KG	7758-99-8
CYCLOHEXANE	3L	110-82-7

DRIERITE	3 LBS	7778-18-9
EDTA	750 ML	9381-92-6
EDTA, BUFFERED	300 ML	
ETHYL ALCOHOL	1 GAL	64-17-5
ETHYL ALCOHOL, 45%	20 CC	
ETHYL ALCOHOL, 70%	200 ML	
ETHYL ALCOHOL, 95%	4 GAL	64-17-5
EUPARAL	40 CC	
FERRIC AMMONIUM SULFATE	300 G	7783-83-7
FERRIC CHLORIDE, 6-HYDRATE	300 G	10025-77-1
FERRIC CITRATE	50 G	
FERROIN INDICATOR	3 OZ	
FERROUS AMMONIUM SULFATE	2.3 KG	7783-85-9
GLYCERIN	250 ML	56-81-5
GLYCERIN JELLY	0.5 OZ	
GLYCERINE	1 QT	56-81-5
GRAM'S IODINE STAIN	14 CC	
HARDNESS BUFFER	50 G	
HARDNESS INDICATOR	100 G	
HYDRAZINE SULFATE	454 G	10034-93-2
HYDROCHLORIC ACID	1 L	7647-01-0
HYDROCHLORIC ACID, 1N	50 ML	
HYDROCHLORIC ACID, 38%	750 ML	7647-01-0
HYDROGEN PEROXIDE, 3%	400 ML	7722-84-1
HYDROXYLAMINE HYDROCHLORIDE	400 G	
HYDROXYLAMINE HYDROCHLORIDE, 1.5%	200 ML	5470-11-1
HYRAX	10 OZ	
IMMERSION OIL	25 CC	
IODINE	100 G	
IRON CHLORIDE	2 LBS	
IRON SULFIDE	0.5 G	
L(+) ASCORBIC ACID	60 G	50-81-7
LANTHANUM OXIDE	100 G	1312-81-8
LUGOL'S IODINE STAIN	8 CC	
MAGNESIUM CARBONATE	200 G	
MAGNESIUM CHLORIDE	500 G	7791-18-6
MAGNESIUM NITRATE	224 G	10377-60-3
MAGNESIUM PERCHLORATE	500 G	10034-81-8
MAGNESIUM SULFATE	2.5 KG	7487-88-9
MANGANOUS CHLORIDE	300 G	13446-34-9
MANGANOUS SULFATE	500ML	
MAYER'S ALBUMEN FIXATINE	1 OZ	
MERCURIC CHLORIDE	1/4 LB	7487-94-7
MERCURIC OXIDE	110 G	21908-53-2
MERCURIC SULFATE	224 G	7783-35-9
METHANOL	4L	67-56-1
METHYL ORANGE	15 G	547-58-0
METHYL ORANGE, 0.0125 %	800 ML	547-58-0
METHYL ORANGE, 0.1 %	200 ML	547-58-0
METHYL PURPLE INDICATOR	1.5 L	1340-02-9

METHYL RED HYDROCHLORIDE	1 OZ	
METHYLTHYMOL BLUE	5 G	1945-77-3
N-(1-NAPHTHYL)ETHYLENEDIAMINE DIHYDROCHLORIDE	25 G	1465-25-4
NAPHRAX IN TOLUENE MOUNTING MEDIUM	30 CC	
NICKELOUS NITRATE	500 G	13478-00-7
NICKELOUS SULFATE	114 G	10101-97-0
NITRIC ACID	2 L	7697-37-2
NOLANDO FLAGELLUM STAIN	2 CC	
OIL OF CEDAR WOOD	100 ML	
OXALIC ACID	150 G	6153-56-6
PH7 BUFFER YELLOW PHOSPHATE	1L	7778-77-0
PHENOL	500 G	108-95-2
PHENOL RED	5 G	143-74-8
PHENOLPHTHALEIN	75 G	77-09-8
PHENOL-SULPHUR RESIN	2 CC	
PHOSPHORIC ACID, 85%	5 PT	7664-38-2
POTASSIUM BIPHTHALATE	100	877-24-7
POTASSIUM BROMIDE	1/4 LB	7758-02-3
POTASSIUM CHLORIDE	4 LB	7447-40-7
POTASSIUM CHROMATE	200 G	7789-00-6
POTASSIUM CYANIDE	454 G	151-50-8
POTASSIUM DICHROMATE	20 ML	7778-50-9
POTASSIUM DICHROMATE, 0.5 N	750 ML	7778-50-9
POTASSIUM DICHROMATE, 1.0 N	150 G, 1 L	7778-50-9
POTASSIUM FERRICYANIDE	100 G	13746-66-2
POTASSIUM HYDROXIDE	200 G	1310-58-3
POTASSIUM IODIDE	500 G	7681-11-0
POTASSIUM NITRATE	350 G	7757-79-1
POTASSIUM NITRATE	225 G	7758-09-0
POTASSIUM PERMANGANATE	500 G	7722-64-7
POTASSIUM PERMANGANATE, 5%	75 ML	7722-64-7
POTASSIUM PERSULFATE	500 G	7727-21-1
POTASSIUM PHOSPHATE, DIBASIC	100 G	7758-11-4
POTASSIUM PHOSPHATE, MONOBASIC	200 G	7778-77-0
POTASSIUM SODIUM TARTRATE	75 G	6381-59-5
POTASSIUM SULFATE	400 GM	7778-80-5
RED BUFFER SOLUTION, pH4 PHTHALATE	3 L	877-24-7
RIDAX MOUNTING MEDIUM	30 CC	
SEA SALTS	34 G	
SILVER NITRATE	0.5 OZ	7761-88-8
SODIUM ACETATE	250 G	127-09-3
SODIUM AZIDE	75 G	26628-22-8
SODIUM BICARBONATE	20 G	144-55-8
SODIUM BISULFITE	400 G	7631-90-5
SODIUM BORATE	350 G	1303-96-4
SODIUM CHLORIDE	2.5 KG	7647-14-5
SODIUM CITRATE, DIHYDRATE	1.5 KG	6132-04-3
SODIUM FLUORIDE	300 G	7681-49-4
SODIUM HEXAMETAPHOSPHATE	20 ML	
SODIUM HYDROXIDE	2 KG	1310-73-2

SODIUM METASILICATE	250 G	13517-24-3
SODIUM MOLYBDATE	1 LB	10102-40-6
SODIUM NITRATE	150 G	7631-99-4
SODIUM NITROPRUSSIDE	500 G	13755-38-9
SODIUM NITROPRUSSIDE SOLUTION	700 ML	13755-38-9
SODIUM PHOSPHATE, DIBASIC	200 G	
SODIUM PHOSPHATE, MONOBASIC	300 G	
SODIUM POTASSIUM TARTRATE	500 G	
SODIUM PYROPHOSPHATE	250 G	7722-88-5
SODIUM SILICATE	25 GM	
SODIUM SILICOFLUORIDE	400 G	
SODIUM SULFATE	500 G	7757-82-6
SODIUM SULFATE, ANHYDROUS	1.5 KG	7757-83-7
SODIUM THIOSULFATE	500 ML	10102-17-7
STANNOUS CHLORIDE	500 G	10025-59-1
STARCH	5 LB	9005-25-8
STARCH INDICATOR	20 ML	
STRONTIUM CHLORIDE	1/4 LB	10025-70-4
STYRAX	3 CC	
SULFANILAMIDE	50G	63-74-1
SULFURIC ACID	4L	7664-93-9
TARTARIC ACID	200 ML	87-69-4
VENICE TURPENTINE	3 CC	
XYLENE	75 CC	
XYLOL-DAMAR	15 CC	
ZINC CHLORIDE	75 G	7646-85-7
ZINC SULFATE	300 G	7446-20-0

Material Safety Data Sheets have been compiled for most if not all of the listed chemicals and will be produced upon request. The Academy does not know which of the chemicals qualifies as a hazardous substance, as defined by you, or if all of them do. The Academy is unable to identify the chemical supplier(s) with certainty, but we believe that the bulk of the chemicals came from Arthur H. Thomas Inc. now ThomasScientific. According to the office of ThomasScientific, their records only go back as far as 1978.

7. Some chemicals on the list would have been used in chemical reactions, which could produce reaction products that are not included in the list and which we are unable to identify. Most if not all of the chemicals used, including reaction products, were diluted and disposed of down the drain, or evaporated under a fume hood. There are no records extant nor other means of identifying or estimating the annual quantities of chemical wastes that were handled or disposed of in the fashion described.

8. The Academy does not know and has no records nor, after reasonable investigation, any other means of ascertaining what entity or entities were used to transport and dispose of waste in the period 1958 to 1976.

9. The Academy does not know if any Academy waste was disposed of at the Site or any area thereof. The answer to Paragraph 8 is incorporated by reference.

10. The Academy has no knowledge of any instance in which the Academy disposed of, or arranged for disposal of, material at the Site.

11. No.

12. John L. Herbert was the Facilities Manager during the period in question and was responsible for trash removal. Mr. Herbert died a number of years ago.

13. Dr. Ruth Patrick of the Academy of Natural Sciences did a study on the Tinicum Marsh in 1968. Her study evaluated the condition or health of the Tinicum Marsh and its role in reducing the pollution of Darby Creek water. The study was designed to determine:

    1. The degree of degradation of Tinicum Marsh by pollution from Darby Creek.
    2. The role of the Tinicum Marsh wetlands in the reduction of nitrates and phosphates in Darby Creek water.
    3. The role of Darby Creek in the production of oxygen.
    4. The productivity of the wetlands as measured by oxygen produced.

    A copy of the Tinicum Marsh study will be produced upon request.

14. The Academy has no such information.

15. David Rusenko
    Vice President Finance & Administration
    Academy of Natural Sciences
    1900 Benjamin Franklin Parkway
    Philadelphia, Pa 19103
    (215) 299-1191

    b. same as above.

16. Any documents that may once have existed, such as records relating to the purchase of chemicals or waste hauling services, no longer exist due to the passage of time. Attached is the Academy's record retention policy applicable to accounting records. No policy exists or has been located that applies to non-accounting records. Records were disposed of by placing them in the trash.

June 27, 2002

Attachment

Records Retention Schedule

Record Type	Retention Period
Accident reports and claims (settled cases)	7 yrs
Accounts payable ledgers and schedules	7 yrs
Accounts receivable ledgers and schedules	7 yrs
Audit reports of accountants	Permanently
Bank reconciliations	1 yr
Capital stock and bond records, ledgers, transfer registers, stubs showing issues, record of interest coupons, options, etc.	Permanently
Cash books	Permanently
Charts of accounts	Permanently
Checks (cancelled, but see exception below)	7 yrs
Checks (cancelled for important payments, i.e., taxes, purchases of property, special contracts, etc. (checks should be filed with the papers pertaining to the underlying transaction)	Permanently
Contracts and leases (expired)	7 yrs
Contracts and leases still in effect	Permanently
Correspondence (routine) with customers or vendors	1 yr
Correspondence (general)	3 yrs
Correspondence (legal and important matters only)	Permanently
Deeds, mortgages, and bills of sale	Permanently
Depreciation schedules	Permanently
Duplicate deposit slips	1 yr
Employee personnel records (after termination)	3 yrs
Employment applications	3 yrs
Expense analysis and expense distribution schedules	7 yrs
Financial statements (end-of-year, other months optional)	Permanently
General and private ledgers (and end-of-year trial balances)	Permanently
Insurance policies (expired)	3 yrs
Insurance records, current accident reports, claims, policies, etc.	Permanently
Internal audit reports (in some situations, longer retention periods may be desirable)	3 yrs
Inventories of products, materials, and supplies	7 yrs
Invoices to customers	7 yrs
Invoices from vendors	7 yrs
Journals	Permanently
Minute books of directors and stockholders, including by-laws, charter	Permanently
Notes payable ledgers and schedules	7 yrs
Option records (expired)	7 yrs
Payroll records and summaries, including payments to pensioners	7 yrs
Petty cash vouchers	3 yrs
Physical inventory tags	3 yrs
Plant cost ledgers	7 yrs
Property appraisals by outside appraisers	Permanently
Property records, including costs, depreciation reserves, end-of-year trial balances, depreciation schedules, blueprints and plans	Permanently
Purchase orders (except purchasing department copy)	1 yr
Purchase orders (purchasing department copy)	7 yrs
Receiving sheets	1 yr
Requisitions	1 yr
Sales records	7 yrs
Savings bond registration records of employees	3 yrs
Scrap and salvage records (inventories, sales, etc.)	7 yrs
Stenographer's notebooks	1 yr
Stock and bond certificates (cancelled)	7 yrs
Stockroom withdrawal forms	1 yr
Subsidiary ledgers	7 yrs
Tax returns and worksheets, revenue agents' reports and other documents relating to determination of income tax liability	Permanently
Time books	7 yrs
Traffic audit registrations	Permanently
Voucher register and schedules	7 yrs
Vouchers for payments to vendors, employees, etc. (includes allowances and reimbursement of employees, officers, etc., for travel and entertainment expenses)	7 yrs